

4. a detector monitoring synthesis of a strand complementary to a template DNA by detecting chemiluminescence which arises from reaction with ATP and luciferin in the presence of luciferase at the reaction vessel the ATP being converted from pyrophosphate produced from the synthesis which uses the different kinds of dNTPs.

4. The system according to claim 3, wherein the reaction vessel and the capillaries or the grooves are incorporated into one module.
5. The system according to claim 3, wherein the capillaries or the grooves are introduced into a top of the reaction vessel.
6. The system according to claim 3, further comprising dNTP reservoirs each containing one of the different kinds of dNTPs and being pressure-controlled to supply one kind of dNTP contained therein intermittently and repeatedly into the reaction vessel, and an apparatus for controlling electric field between each of the dNTP reservoirs and the reaction vessel.
7. The system according to claim 3, wherein each of the capillaries or the grooves corresponds to one of said different kinds of dNTPs, and each of the capillaries or the grooves has an inner diameter of less than 0.2 mm or a cross-section area less than 0.04 mm², at an inlet of the reaction vessel.
8. The system according to claim 3, wherein each of the capillaries or the grooves corresponds to one of said different kinds of dNTPs, and each of the capillaries or the grooves has an inner diameter of less than 0.1 mm or a cross-section area less than 0.01 mm², at an inlet of the reaction vessel.
9. The system according to claim 7, further comprising reagent reservoirs, and reaction solutions each containing one kind of dNTP being introduced from the reagent reservoirs into the reaction vessel via the capillaries or the grooves connected at bottom of the reaction vessel.
10. The system according to claim 7, further comprising a supply unit set on top of the reaction vessel for supplying reaction solutions containing the dNTPs to the

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reaction vessel and a reaction vessel unit including the reaction vessel, the supply unit and the reaction vessel unit are separable, and the reaction solutions are alternatively and repeatedly supplied from the supply unit via the capillaries or the grooves.

15. A DNA analyzing system comprising:

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at least one reaction vessel;

means for supplying four different kinds of dNTPs into each reaction vessel via independent capillaries or grooves by pressurizing or by liquid transfer system; and

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a detector monitoring synthesis of a strand complementary to a template DNA by detecting chemiluminescence which arises from reaction with ATP and luciferin in the presence of luciferase at the reaction vessel the ATP being converted from pyrophosphate produced from the synthesis which uses the different kinds of dNTPs.

16. The DNA analyzing system according to claim 15, wherein the detector is capable of distinguishing at least two positions emitting the chemiluminescence.

17. The DNA analyzing system according to claim 15, wherein the detector is an area sensor.

18. The DNA analyzing system according to claim 15, wherein the reaction vessel is selectively shifted relative to the detecting device.

20. The DNA analyzing system according to claim 15, wherein the reaction solutions are supplied substantially simultaneously and independently to the reaction vessel by an ink-jet method.

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21. The DNA analyzing system according to claim 18, wherein the detector is a photon multiplier tube or an avalanche photodiode.
